

REMARKSOverview

Claims 36 and 38-42 currently stand allowed.

The Examiner also responded in the prior Office Action as follows: rejected claim 31 under 35 U.S.C. § 102(e) as being anticipated by Mendez et al. (U.S. Patent No. 5,961,590); rejected claims 1, 2, 6, 7, 16, 18 and 32 under 35 U.S.C. § 103 as being unpatentable over Mendez in view of Srbljic et al. (U.S. Patent No. 5,933,849); rejected claims 3, 8, 33 and 37 under 35 U.S.C. § 103(a) as being unpatentable over Mendez in view of Srbljic and Bezaire et al. (U.S. Patent No. 5,758,088); rejected claims 4, 5, 17, 26-28 and 30 under 35 U.S.C. § 103(a) as being unpatentable over Mendez in view of Rossman (U.S. Patent No. 6,430,409); rejected claims 19 and 21-25 under 35 U.S.C. § 103(a) as being unpatentable over Mendez in view of Bui (U.S. Patent No. 6,412,007); rejected claims 10, 11 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Mendez in view of Rossman and Bui; rejected claim 29 under 35 U.S.C. § 103(a) as being unpatentable over Mendez in view of Craddock (U.S. Patent No. 6,351,771); rejected claims 9 and 34 under 35 U.S.C. § 103(a) as being unpatentable over Mendez in view of Bezaire and Rossman; and rejected claim 35 under 35 U.S.C. § 103(a) as being unpatentable over Mendez in view of Bezaire and Page et al. (U.S. Patent No. 5,329,619).

Applicant hereby amends claim 10 in order to correct a minor typographical error, and thus, claims 1-11 and 16-42 continue to be pending.

Embodiments of the Present Invention

Embodiments of the present invention are directed to facilitating communications between devices (e.g., consumer devices that are remote from each other) via one or more intermediate servers, such as to allow a client device to request that a service be provided and to assist in having another device perform the requested service in response. In some embodiments, the services may be requested and provided in a transparent manner such that the client device does not even know the identity or

location of the other device that performs the service, and thus does not directly communicate with that other device. In some embodiments, at least two intermediate servers that communicate with each other are used to facilitate the provision of services, such as two intermediate servers that are remote from each other but that are each local to one of the devices. In such embodiments, the devices may communicate only with their local intermediate server, with the intermediate servers inter-communicating to facilitate requested services being performed.

In some embodiments, the intermediate servers provide additional functionality to assist in the providing of services. For example, intermediate servers may query local devices with which they communicate to determine services available from those devices, and may then maintain a listing of available services that can be provided to other remote client devices via other intermediate devices so that those remote devices can request the services. In addition, in some embodiments the intermediate servers may also provide their own services to remote client devices. Intermediate servers may also provide various authorization functionality before allowing services to be requested and performed, as well as a variety of other functionality.

The Mendez Reference

Mendez is directed to a system in which various devices can each synchronize various of their data (e.g., email) with a central global server. In one example embodiment, a computer on a local area network ("LAN") communicates with the central global server, with communications between the computer and the global server passing through a firewall for the LAN and a firewall at the location of the global server.

As the intermediate firewalls do not appear to perform any functionality other than allowing or preventing certain communications to pass through in the manner typical of a firewall (e.g., based on predefined criteria), the local computer and the global server must directly contact each other and inter-communicate in order to exchange information – thus, Mendez is unrelated to the use of intermediate servers that allow a client device to request and receive services in a manner transparent to that client device. In addition, the intermediate firewalls do not appear to provide any additional

functionality beyond that normally present in prior art firewalls, and thus do not provide any of the various additional types of functionality related to assisting in providing services as described and claimed in the present application.

The Srbljic Reference

Srbljic is directed to a system for caching objects on a network as part of a distributed directory. In order to retrieve a remote object, the system uses a "directory list" for an object that specifies the network address of the object and addresses of object caches that may include copies of the object. Srbljic appears unrelated to the use of intermediate servers that facilitate communications in the manner described and claimed in the present application.

The Bezaire Reference

Bezaire is directed to a system for sending emails and other communications to wireless devices. Bezaire appears unrelated to the use of intermediate servers that facilitate communications in the manner described and claimed in the present application, and in particular does not allow a client device to request and receive services in a manner transparent to that client device.

The Page Reference

Page is generally directed to techniques to allow inter-object communication in a computing environment via an intermediate broker. Page appears unrelated to the use of intermediate servers that facilitate communications in the manner described and claimed in the present application.

The Rossman Reference

Rossmann describes a problem in the prior art that stems from wireless two-way data communication devices (e.g., cell phones and two-way pagers) having closed proprietary systems in which they can only access information provided by the companies that provide those devices. In response, Rossmann describes techniques for loading a software module on such wireless communication devices to enable them to

access information in a non-proprietary manner from any server computer that is part of the same network as the device, by directly communicating with such server computers. In particular, the wireless communication device can directly contact such a server by specifying a resource locator that includes the address of the server, and thus obtain information from that server computer in a response message. In addition, Rossman discloses that the server computer may provide information about functionality that the server computer provides, so that the data communication device can request that the server provide such functionality in a similar manner directly from the server computer. The server computer can also provide address information for other server computers on the network so that the wireless communication device can similarly directly contact such other server computers to obtain information. (Rossman: 3:61-4:12, 3:50-60, 4:33-5:7, 8:10-65, 10:28-39.)

Thus, Rossman merely describes how a communication device can directly access information from a server computer by specifying the address of that server computer and receiving a response directly from that server computer. Rossman appears unrelated to the use of intermediate servers that facilitate communications in the manner described and claimed in the present application, and in particular does not allow a client device to request and receive services in a manner transparent to that client device.

The Bui Reference

Bui is generally directed to authorizing data communication sessions that occur directly between a client and a server. (Bui, Abstract.) Bui appears unrelated to the use of intermediate servers that facilitate communications in the manner described and claimed in the present application.

The Craddock Reference

Craddock is generally directed to providing information and services to users by employing an intermediate architecture that performs various functions, such as automatically converting data formats and transportation protocols as appropriate. (Craddock, 3:52-4:25.) Craddock similarly appears unrelated to the use of intermediate

servers that facilitate communications in the manner described and claimed in the present application.

Analysis

Applicant thanks the Examiner for the indication that claims 36 and 38-42 contain allowable subject matter. In addition, Applicant further thanks the Examiner for his withdrawal of the finality of the Office Action dated April 23, 2003.

As a threshold matter, Applicant notes that the prior Office Action did not include an indication that the Examiner has considered the references included in Applicants' supplemental Information Disclosure Statement (IDS) filed August 22, 2003. Applicants thus respectfully request that the Examiner acknowledge consideration of the references of the previously submitted IDS by initialing each reference on a copy of the IDS and returning the copy to the Applicants' representative.

With respect to the rejected claims, the Examiner has maintained his rejection of each of the previously pending claims as being unpatentable over Mendez, either alone or in combination with other references. Applicant respectfully traverses this rejection, however, and notes that each of the previously pending claims as rejected include features and provide functionality not disclosed by Mendez or the other references as cited. For example, each of the previously pending claims generally recite a communications architecture in which a local client device communicates with a local intermediate server to request services from a remote device, with the local intermediate server facilitating the service requests by forwarding them as appropriate over an established connection to a remote intermediate server associated with the remote device. In addition, various of the pending claims recite additional functionality performed by the intermediate servers, such as (1) the intermediate server proximate to the remote device maintaining a listing of services available from that remote device so that it can be provided to client devices (see, for example, independent claims 10 and 11), such as (2) the intermediate servers being necessary to enable communications between the client device and the remote device since the client device is able to communicate only with other local devices (see, for example, claims 16-30), such as (3)

the intermediate servers providing transparent communications between the client device and the remote device by acting as a surrogate for the client or remote devices (see, for example, claims 31-33 and 1-6), and such as (4) the intermediate servers themselves providing services to client devices in addition to the services available from remote devices (see, for example, claim 34).

While the Examiner asserted that Mendez discloses such an architecture, Applicant can find no teaching or suggestion in Mendez or any of the other cited references of any intermediate devices performing any such activities – instead, the intermediate firewalls in Mendez on which the Examiner bases his rejection are merely typical prior art firewalls that intercept communications between a sender and an intended recipient and determine whether to allow those communications to continue. The Examiner has clarified in the prior Office Action that he believes that the firewalls discussed in Mendez “must provide the outside connection to a remote device in the form of a proxy.” (Office Action dated September 17, 2003, 24:14-16.) However, Applicant does not believe that it is inherent in the Mendez reference that the recited firewalls must operate in the claimed manner, and thus each of the previously pending claims as rejected was allowable over the cited references for at least that reason.

Moreover, the previously pending claims further recite additional claim elements that indicate that the claims are clearly patentable over the cited references. For example, independent claims 1, 7, 31 and 32 further clarify the role of the intermediate servers in assisting a local client device to request and receive services from a remote device without the local client device needing to directly address the remote device or even to know the identity or location of the remote device. In particular, claim 1 recites “under control of the first consumer device, requesting from the first intermediate server a listing of services available via the first intermediate server; receiving from the first intermediate server a listing of multiple available services; and after receiving the listing of multiple available services, requesting from the first intermediate server one of the multiple available services, the requested service available to be provided by the remote second device” (emphasis added). Thus, the consumer device merely communicates with its local intermediate server to request a service available via that

server, and that intermediate server facilitates the performance of the service from a remote device in a manner transparent to the consumer device. Claim 7 recites similar claim elements. Independent claims 31 and 32 contain claim elements similar to those of claim 1, as the claims previously depended from claim 1 before being rewritten in independent form, and additionally recite, respectively, that "communications from the first consumer device to the remote second device are forwarded along the link by the first and second servers in a manner transparent to the first consumer device . . . such that the first consumer device and the second device appear to each other to be local" (emphasis added) and "communications from the first consumer device to the remote second device are forwarded along the link by the first and second servers in a manner transparent to the first consumer device, the forwarding in the transparent manner including the first server device representing the second device in communications with the first consumer device over the first communicative connection and including the second server device representing the first device in communications with the second device over the second communicative connection" (emphasis added).

In addition, independent claim 8 includes additional recitations regarding such actions of an intermediate server device, including that the intermediate server is configured to "provide information to the client device about available services by, obtaining information from the second server device about services available via the second server device; and sending to the client device information about available services that includes the obtained information from the second server device" (emphasis added) and is further configured to "facilitate performance of services for the client device by, forwarding service requests from the client device to the second server device for one or more of the available services whose information was obtained from the second server device and sent to the client device; and forwarding responses to at least some of the service requests from the second server device to the client device". Independent claim 16 further recites that the local client device is "designed to communicate only with other local client devices" and that a local intermediate server is able to communicate with the local client device to forward requests for services to a remote device via an intermediate server local to that device.

However, even if the intermediate firewalls of Mendez were somehow modified to transparently facilitate communications between the client device and the remote device in the claimed manners and to additionally perform the other recited aspects of their operation, there is no suggestion or motivation in any of the cited references for *client devices* to perform claim elements that are recited, such as “requesting from the first intermediate server a listing of services available via the first intermediate server” as is recited in claim 1. Simply put, none of the devices in any of the cited references do anything similar to numerous of the claim elements because the cited references describe systems that operate in different manners and for different purposes than the described invention – there is simply no reason that the devices in the cited references would have any motivation to perform the recited claim elements, as they are not directed to the recited architecture that allows a local client device that communicates only with other local devices to identify and request services to be provided by remote devices. While the Examiner has asserted that Bezaire does disclose such a system, the Examiner has pointed to no teaching or suggestion in Bezaire to perform each of the recited claim elements related to requesting and using service listings.

Moreover, the other cited references do not correct these failings of Mendez. As described in greater detail in Applicant’s previous Amendment, Rossman makes clear that its described techniques are intended to allow a client device to directly access a remote computer server, such as by stating that “a user can access an application from anywhere as long as the user has a two-way communication device that can communicate with that server computer” (Rossman, 8:31-33, emphasis added), and in particular by the communication device specifying resource locators that directly address the server computer from which information will be received. Bezaire and Srbljic appear to be completely unrelated to requesting services by a client device to be provided by a remote device, with Bezaire merely discussing techniques for forwarding email messages and Srbljic discussing techniques for retrieving remote cached objects. While email messages may pass through one or more intermediate mail servers and/or wireless service provider servers while en route, there is no suggestion or motivation that the intermediate servers would perform operations as recited, such as to “provide

information to the client device about available services by, obtaining information from the second server device about services available via the second server device" as is recited in claim 8, or more generally to represent the client device or remote service-providing device in such communications. The other cited references similarly do not appear to disclose using intermediate servers in the claimed manner, and thus these pending claims are allowable for at least these reasons.

In addition, at least some of the pending claims recite additional functionality performed by the intermediate servers, with such functionality further distinguishing the claims from the cited references. For example, claims 10 and 11 recite that an intermediate server maintains a listing of the services available from a device to which it is connected and provides that list to the client device via the other intermediate server upon request. In this way, by using intermediate servers the client device can discover and access available services without knowing who provides those services. None of the cited references appear to teach or suggest similar functionality. While the Examiner asserts that Rossman provides similar functionality, the passage cited by the Examiner merely discusses that a server computer may specify particular servers that have available functionality or information so that a communication device can directly access those servers. Applicant can find no mention in Rossman of the server computer gathering and maintaining information for other devices that can be accessed by the client device via the intermediate servers in the recited manner.

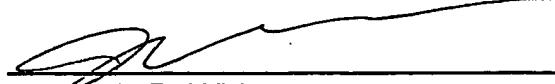
The pending dependent claims include the features of those claims from which they depend, and are thus allowable for the same reasons as those claims. Moreover, the pending dependent claims also recite additional features lacking in the cited references, and are thus allowable on the basis of those features as well, although these additional features are not enumerated here for the sake of brevity.

Conclusion

In light of the above remarks, Applicants respectfully submit that all of the pending claims are allowable. Applicants therefore respectfully request the Examiner to reconsider this application and timely allow all pending claims. If the Examiner has

any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to call the undersigned at (206) 264-6380.

Respectfully submitted,
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